

Comparison of Soil Residual Grass Herbicides in Corn.

02-50W-MS50

OBJECTIVE: Evaluate soil residual grass herbicides used in corn at 1x and 0.5x field use rates.

SUMMARY: None of the soil residual grass herbicides caused corn injury in this trial. The 1X rates of Define, Harness, Topnotch, and Outlook controlled at least 90% of giant foxtail at 14 days after corn emergence (DAE). Then 1X rates of Harness and Topnotch and the 1/2X rate of Harness provided the three greatest levels of giant foxtail control observed at all evaluation timings. Dual II Magnum provided significantly less control of giant foxtail compared to Harness and Topnotch, most likely due to the unusually dry conditions following herbicide application. Less than 0.1 inches of rainfall fell during the 11 days immediately following application of the preemergence herbicides.

HERBICIDES

DEFINE 60 WG
DUAL II MAGNUM 7.64 EC
HARNES 7 EC
OUTLOOK 6 EC
TOPNOTCH 3.2 ME

WEEDS

foxtail, giant
nutsedge, yellow
ragweed, giant
waterhemp, common

CROP

corn, field

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Comparison of Soil Residual Grass Herbicides in Corn.

Project Code: 02-50W-MS50 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 10-31-02

Objective:

Evaluate soil residual grass herbicides used in corn
 at 1x and 0.5x field use rates.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. CYPES	nutsedge, yellow	Cyperus esculentus L.
3. AMBTR	ragweed, giant	Ambrosia trifida L.
4. AMATA	waterhemp, common	Amaranthus rudis Sauer

Crop 1:	ZEAMX	corn, field	Variety:	Pioneer 33P69LL
Planting Method:	Seeded		Planting Date:	5-30-02
Rate:	28000	S/A	Depth:	1.5 IN
Row Spacing:	30	IN		

Plot Width, Unit:	10	FT	Plot Length, Unit:	27	FT	Reps:	3
Tillage Type:	Reduced-Till		Study Design:	Randomized complete block			
Previous Crop, Year:	GLXMA, 2001						

Field Prep./Maintenance: N 150 LB/A, P2O5 50 LB/A, K2O 200 LB/A

Soil Name:	Weir	% OM:	1.4	pH:	6.5	CEC:	12
Texture:	Silt loam	Fert. Level:	P1: 77 LB/A, K: 198 LB/A				

APPLICATION DESCRIPTION

A

Application Date:	5-30-02
Time of Day:	17:00
Application Method:	Spray
Application Timing:	PRE
Applic. Placement:	BROSIO
Air Temp., Unit:	84 F
% Relative Humidity:	48
Wind Velocity, Unit:	0-3 MPH
Soil Moisture:	NORMAL
% Cloud Cover:	15

CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage:	ZEAMX	NA
Height, Unit:	NA	NA

WEED STAGE AT EACH APPLICATION

A

Weed 1 Code:	NA
--------------	----

APPLICATION EQUIPMENT

A

Appl. Equipment:	CO2 sprayer
Operating Pressure:	40 PSI
Nozzle Type:	Flat fan
Nozzle Size:	8003
Boom Length, Unit:	7.5 FT
Spray Volume, Unit:	20 GPA

NOTES:

This study was not harvested.

Comparison of Soil Residual Grass Herbicides in Corn.

Project Code: 02-50W-MS50 Location: Belleville Research Center

Weed Code	ZEAMX				SETFA	SETFA	SETFA	CYPES	AMBTR	AMATA
Crop Code	Injury	Injury	Injury	Injury	Control	Control	Control	Control	Control	Control
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	6-9-02	6-16-02	6-30-02	7-28-02	6-16-02	6-30-02	7-28-02	6-16-02	6-16-02	6-16-02
Rating Date	7 DAE	14 DAE	28 DAE	56 DAE	14 DAE	28 DAE	56 DAE	14 DAE	14 DAE	14 DAE
Trt-Eval Interval										

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code										
1	NONTREATED									0	0	0	0	0	0	0	0		
2	DEFINE	60	WG	0.675	LB A/A	18	OZ/A	PRE	A	0	0	0	0	90	90	72	52	33	99
3	HARNESS	7	EC	1.97	LB A/A	2.25	PT/A	PRE	A	0	0	0	0	97	92	82	57	53	99
4	TOPNOTCH	3.2	ME	2.0	LB A/A	2.5	QT/A	PRE	A	0	0	0	0	97	92	82	65	65	99
5	DUAL II MAGNUM	7.64	EC	1.6	LB A/A	1.68	PT/A	PRE	A	0	0	0	0	88	76	43	50	17	99
6	OUTLOOK	6	EC	0.844	LB A/A	18	OZ/A	PRE	A	0	0	0	0	90	87	63	50	13	98
7	DEFINE	60	WG	0.338	LB A/A	9	OZ/A	PRE	A	0	0	0	0	70	65	37	43	0	95
8	HARNESS	7	EC	0.984	LB A/A	1.125	PT/A	PRE	A	0	0	0	0	95	88	73	60	33	99
9	OUTLOOK	6	EC	0.422	LB A/A	9	OZ/A	PRE	A	0	0	0	0	76	53	23	52	27	96
10	DUAL II MAGNUM	7.64	EC	0.8	LB A/A	0.84	PT/A	PRE	A	0	0	0	0	73	28	18	40	10	99
LSD (P=.05)										0.0	0.0	0.0	0.0	8.4	10.3	15.6	13.1	15.7	2.8
Replicate F										0.000	0.000	0.000	0.000	5.018	0.103	3.396	0.617	0.249	0.812
Replicate Prob(F)										1.0000	1.0000	1.0000	1.0000	0.0185	0.9030	0.0560	0.5505	0.7825	0.4598
Treatment F										0.000	0.000	0.000	0.000	104.998	81.420	30.755	16.761	16.806	1052.571
Treatment Prob(F)										1.0000	1.0000	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Comparison of Soil Residual Grass Herbicides in Corn.

Project Code: 02-50W-MS50 Location: Belleville Research Center

Trial Comments

1. Protocol: Aventis.
2. Blanket postemergence application of Callisto + COC + 28%UAN at 3.0 oz/A + 1.0 %v/v + 2.5 %v/v applied 10 ft wide to all plots including the nontreated on 6-18-02.
3. DAE = days after emergence.